

Iranian Pathway¹ to a Nuclear Weapon Under the Amad Plan–What we learned from the Nuclear Archives

Fissile material²

Uranium mining and milling

“Bandar Project” @ Gchine

[Full report](#) | [Summary](#)

LEU³ imported, or produced at Natanz or other Iranian sites

Conversion to uranium hexafluoride

Uranium enrichment plant

@ Al Ghadir, aka Fordow

[Full report](#) | [Summary](#)

Conversion from weapon grade uranium hexafluoride to weapon grade uranium tetrafluoride

Production of weapon grade uranium metal and components of nuclear core⁵

“Shahid Boroujerdi Project”

@ Parchin

[Full report](#) | [Summary](#)

In the early 2000s, Iran’s was building a substantial nuclear weapons production complex under the “Amad Plan” to manufacture five nuclear weapons and prepare an underground nuclear test site, all to be finished by early 2004 (on five weapons, read the [full report](#) or the [summary](#).) Under international pressure, Iran secretly downsized and reoriented this nuclear weapons program into more camouflaged parts, some or all of which may continue today in reduced form (on reorientation, read the [full report](#) or [summary](#).)

Non-fissile material weapons components

(see @Project 110, [click here](#))

High explosives manufacturing⁴

Nuclear weapon design (“Simulation Project”)

Mechanical, electrical, and electronics parts fabrication⁶

Shock wave generator @ Sanjarian [Full report](#)

Major high explosives testing

Testing @ Parchin

[Full report](#)

Other testing @ Marivan

Hydrodynamic testing with pin dome

[Click here.](#)

Neutron source

Sub-projects 3/20⁷ and 3/21

[Full report](#)

Other components

Flyer plate ([click here](#) for more), main charge, outer casing, etc.

Underground nuclear test site “Midan Project” [Full report](#) | [Summary](#)

Warhead assembly plant

[Click here](#) for the weapon design

Re-entry vehicle

@ Shahid Hemmat Industrial Group

[Click here](#) for schematics

Shahab-3 missile Integration



Notes and Comments

¹This chart generally flows from the top to the bottom, ending with a nuclear warhead on a Shahab-3 missile. Some activities occur simultaneously and are therefore presented on the same level.

²This pathway does not include the design, testing, and development facilities involved in the steps of converting and enriching uranium, or making nuclear weapon components from natural and enriched uranium. For example, as part of the Amad Plan, Iran operated an above ground centrifuge R&D facility and a development facility for uranium metallurgy, casting, and forming.

³ Low-enriched uranium

⁴It is not clear if this was part of the weapons program or part of a conventional military industry, where high explosive components were built under contract according to designs provided by the nuclear weapons program.

⁵Under the Amad Plan, Iran also operated above ground facilities involved in developing and testing uranium metal production and melting, as well as uranium metal casting and machining components of nuclear weapons. As of mid-2003, the archive documentation supports that the above ground facility dedicated to developing uranium-based nuclear weapons components had only operated with uranium surrogate materials.

⁶It is currently unknown where these parts were made.

⁷The location of the site which manufactured uranium deuteride (project 3/20) is not currently known.